

Applications w/ Ineq

1.

 $2w+5$ 

$$2w + 2(2w+5) \leq 64$$

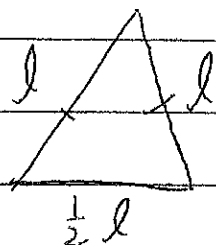
$$4w + 10$$

$$6w + 10 \leq 64$$

$$w \leq 9$$

9cm is largest possible width

2.



$$6 < 2\frac{1}{2}l < 16$$

$$2.4 < l < 6.4$$

3, 4, 5, or 6 units

3.

 x

$$20 < 3x + 6 < 30$$

 $x+2$

$$14 < 3x < 24$$

 $x+4$

$$\frac{14}{3} < x < 8$$

5 or 7

5	7
7 or 9	
9	11

4.

$$\frac{80 + 65 + 87 + 75 + x}{5} \geq 80$$

$$x \geq 93$$

5. x
 $x+8$
 88

$$80 \leq \frac{x + x + 8 + 88}{3} \leq 89$$

$$240 \leq 2x + 96 \leq 267$$

$$72 \leq x \leq 85.5$$

Between 72 + 85.5 inclusively

6.



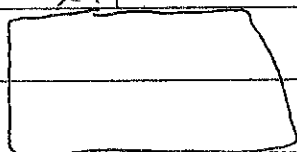
$$2(x+10) + 2(x+6) \geq 2(4x)$$

x
 $x+10$

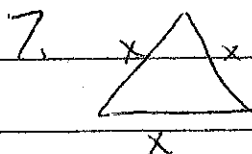
$$32 \geq 4x$$

$$8 \geq x$$

$x+6$



8cm



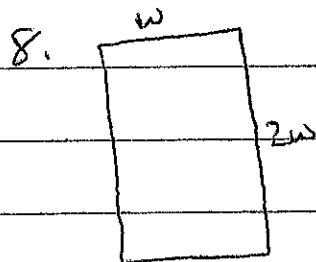
$$2(3x) \leq x + 20 + x + 30 + x + 40 < 3(3x)$$

$$6x < 3x + 90 < 9x$$

$$3x < 90 < 6x$$

$$x < 30 \quad x > 15$$

It is b/w 15 + 30 cm



$$2(w-2) + 2(2w-2) \leq 100$$

$$w-2 + 2w-2 \leq 50$$

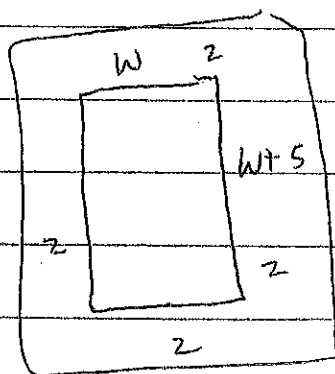
$$3w-4 \leq 58$$

$$3w \leq 62$$

$$w \leq 18$$

16cm x 34cm

9.



$$(w+4)(w+9) \geq w(w+5) + 148$$

$$\cancel{w^2} + 13w + 36 \geq \cancel{w^2} + 5w + 148$$

$$8w \geq 112$$

$$w \geq 14$$

At least 13m x 18m